Fernald Environmental Management Project Fluor Fernald Functional Area Document Program	Procedure Number: MT-0003 Effective Date: 06/29/2000 Revision No. 12
TECHNICAL (OS)	UDC No. 1 UDC Effective Date: 09/28/00
FEMP WORK REQUEST/ORDER PROCEDURE	Page 1 of 37
Issue Authorization Signature Ronald G. Peterson Date: 09/14/00 *Ronald G. Peterson, Maintenance FAM*	Supersedes: SSOP-0061

SUBJECT EXPERT: Clarence Smith, X-4574

TABLE OF CONTENTS

ATTACHMENTS

RECORD OF ISSUE/REVISIONS

Issue Authorization Date	Effective Date	PCN No.	Rev. No.	Description
N/A	09-17-92		0	The procedure is required to meet commitment Nos. QA:89:0204, 0205, 0206, and XC91:0004, per Request No. S92-020, initiated by A. R. Miller.
N/A	05-15-94		1	New procedure to update SSOP-0061 to new format requirements and to incorporate permanent Site Document Changes issued against SSOP-0061 during 1994. This document supersedes SSOP-0061.
N/A	12-15-95		2	Procedure reissued to conform with current program requirements, per Request No. S95-0020, initiated by D. Paine.
N/A	06-28-96		3	Procedure revised to conform with current program requirements per Request No. S96-0010, initiated by B. Perkins.
N/A	12-30-96		4	Procedure revised to conform with current program requirements per Request S96-0024, initiated by Joe Legge
N/A	03-24-97		5	Procedure revised to conform with current requirements per request S97-0392, initiated by Joe Legge
N/A	09-30-97		6	Procedure revised to conform with current requirements per request Initiated by Joe Legge
04-01-98	04-01-98		7	Procedure revised to include all PCNs initiated on Rev.6 and to conform with current requirement per request Initiated by Joe Legge
05-20-98	05-20-98	1	7	Sections 5.2.14, 5.2.15 added to page 11. Step 7.1.33 on page 16 corrected to read Attachment B.
01-06-99	01-14-99		8	Procedure revised to meet requirements of Price Anderson Amendments Act (PAAA) and to include PCNs, and to meet the requirements of MS-2001 per request by Joe Legge
04-21-99	04-23-99	1	8	Revised to incorporate the Seven Guiding Principles and Five Core Functions of Integrated Safety Management (ISM). Initiated by J. Siler. Revised page 6 and added page 29A.
05-23-99	06-15-99		9	Revised to enhance Integrated Safety Management. Initiated by Jim Siler.

Issue Authorization Date	Effective Date	PCN No.	Rev. No.	Description
06-23-99	06-28-99	1	9	Revised Attachment 4 FEMP Work Request/Order Procedure for ISM Crosswalk. Initiated by Clarence Smith.
06-28-99	06-30-99	2	9	Revised pages 4, 3.0 References, page 17, 7.2.12 Note, and page 21, 10.1.6 to delete reference MT-0013. Revised page 5, Responsibilities 4.2 and 4.5 to include Integrated Safety Management. Added pages 5A and 5B. Corrected typographical error, page 10, 6.2. Initiated by Clarence Smith.
08-20-99	08-27-99		10	Revised to comply with MS-2001 format, and to include major revision, verbiage correction, and Integrated Safety Management. Initiated by Clarence Smith and Ronald Peterson.
12-06-99	12-10-99		11	Revised to update Section 4.7 and 7.3 to clarify maintenance ticket issues as corrective actions to ISMS Phase I AFI. Initiated by Clarence Smith.
Issue Authorization Date	**Effective Date**	**UDC No.**	**Rev. No.**	**Description**
06-16-00	06-29-00		12	Revised to update organization references and to reflect corrective actions identified in NCR FY00-0022 (pull actions from notes and clarify "out of service" equipment tagging, waiver authorization and justification, and equipment check responsibilities). Initiated by Clarence Smith.
09-14-00	09-28-00	1	12	Revision of section 7.2 initiated by Clarence Smith to accommodate important outside comments on clarification of responsibilities delivered after the normal review cycle.

1.0 PURPOSE

This procedure establishes responsibilities for various personnel, defines expectations for safety, and describes work control processes associated with work requests/work orders. It discusses approving, controlling, and managing maintenance work activities performed by Maintenance Department personnel in the Site Operations and Maintenance (SOM) Division at the Fernald Environmental Management Project (FEMP).

2.0 SCOPE

2.1 This procedure pertains to the scope of work for portable equipment, facilities and fixed equipment installed in facilities belonging to an assigned functional area, area facility owners, facility owners, project managers or their designee responsible for operating the facility/project. This equipment does not belong to the SOM Division's Maintenance Department. The Maintenance Department is to perform maintenance services in support of requests from the functional areas, area facility owners, facility owners, project managers or their designee, to perform various types of maintenance and preventive maintenance (PM) services in accordance with pre-determined schedules and to coordinate work with operational schedules and activities.

2.2 During the implementation of work, a graded approach for Integrated Safety Management (ISM) will be incorporated during the work request planning (i.e. "Integrated" = maintenance craftsperson plus first line management for work planning efforts; plus "Safety" = known safety hazards identified by craftsperson, planner/estimator, and first line management during the planning phase, and controlled by the front line management plus "Management" = responsible for both the integrated/safety) concept for the execution of the work order activity.) ISM requires management and work practices at all levels so that the mission is accomplished while protecting the public, the worker, and the environment. Attachment 4 is the ISM Crosswalk.

2.3 This procedure addresses the Maintenance Department's processing of work requests/work orders, work orders for preventive maintenance, and Maintenance Tickets related to the scope of work. This procedure describes:

2.3.1 The process followed to control maintenance work activities at the FEMP.

2.3.2 The requirements and responsibilities for preparing and submitting work requests.

2.3.3 The responsibilities for planning, scheduling of the requested activities.

2.3.4 The responsibilities for implementing and performing the work requested.

2.3.5 The responsibilities for closing and documenting work orders.

2.3.6 Guidance for obtaining any independent oversight approval for the work orders.

2.3.7 Documents necessary to support the execution of the approved work orders.

2.4 It is the owner's and user's responsibility to develop a list of their equipment and notify the Computerized Maintenance Management System (CMMS) Administration of new or relocated equipment requiring preventive maintenance; owners and users must also verify periodically that this data is accurate.

2.5 It is the responsibility of the owner/user of equipment to ensure that the assigned PM frequency is honored and notify CMMS Administration of any changes in equipment status and location.

3.0 REFERENCES

3.1 AC-0001, Request for Purchase

3.2 AC-0006, Credit Card Purchases

3.3 CM-0001, Configuration Management

3.4 CT-4.2.1, Asbestos Abatement

3.5 D10-02-014, Maintenance Work Instruction Procedure

3.6 D10-02-015, Maintenance Hold Points

3.7 D10-02-016, Post-Maintenance Performance Testing

3.8 ED-12-4012, Facility Engineering Projects

3.9 ED-12-4015, Performance Grading

3.10 ED-12-5002, Engineering Design Change Processes

3.11 ED-12-7002, Request for Engineering Services

3.12 IM-2352, FEMP Hazard Survey and Hazard Assessment

3.13 MS-0002, Transferring Records to Inactive Storage and Retrieving Information from the Records Center.

3.14 MS-0008, Filing and Maintenance of Records

3.15 OP-0004, Fluor Fernald Lockout/Tagout (Hazardous Energy and Material Control) Program

3.16 OP-1020, Site Lessons Learned

3.17 OP-1024, Site Facilities Management

3.18 RM-0012, Quality Assurance Program

3.19 RM-0020, Radiological Control Requirements Manual

3.20 RM-0021, Safety Performance Requirements Manual

3.21 SH-0018, Penetration Permitting Program

4.0 RESPONSIBILITIES

4.1 Originator - prepares first section of the Lotus Notes Maintenance Department's Automated Work Package (AWP) System, and identifies the scope of work required to the facility owner and/or area facility owner. If problems occur, contact the Maintenance Help Line (X-5100) for further assistance.

4.2 Area Facility Owners, Facility Owners, Project Managers - are required to integrate safety into management and work practices at all levels so that missions are accomplished while protecting the public, the work, and the environment. This is to be accomplished through effective integration of safety management into all facets of work planning and execution. Identifies the type of work (alteration, fabrication or corrective maintenance) and potential concerns over safety or other hazards. Area facility owners, facility owners, project managers, or their designees are responsible to request an adequate number of trained, qualified personnel and sufficient other maintenance service support to ensure that their facilities and equipment are preserved as valuable assets throughout their life cycle, and that their facilities and equipment remain operationally ready. The facility ownership concept imposes the obligation to perform serviceability inspections and checks in their facilities and to remain continually aware of the operational status of their facilities and equipment.

4.3 Control Account Manager - verifies funds are available to perform work and provides control account numbers, and charge numbers.

4.4 Maintenance Document Control Center - assigns unique equipment number, and enters required repair, replacement, etc. data into the CMMS and archives the records per the requirements of MS-0002.

4.5 Maintenance Planner/Estimator – is responsible for effectively integrating safety management into all facets of work planning and execution. As part of integrated safety management (ISM) effort, the planner/estimators seeks input from craftspersons on safety issues or hazards associated with the work request. Provides a preliminary review and walkthrough, performs initial Davis-Bacon Act screening for items that will exceed $2,000, and develops the work sequence as required for the work request. Enters job elements, craft codes, number of craft hours, and the appropriate "Work Order Status Codes" in CMMS. Completes the planning and estimating section of the work request (which describes the work sequence and identifies the required materials), and enters this information into the CMMS or AWP system. Planner/estimators seek input from craftspersons on safety issues or hazards associated with the work request.

4.6 Maintenance Scheduler - balances priorities, determines availability of resources, schedules and coordinates crafts and support organizations with facility availability.

4.7 Maintenance Team Leader - as the first line supervisor, assures work is completed in accordance with the work order/Maintenance Tickets and in a safe manner, following ISM guiding principles and core functions. Discusses safety issues and hazards in pre-job briefings. The team leader involves the responsible planner, those responsible for the engineering function, etc., in the solution of any problems that may arise during implementation of the work. Ensures effective integration of safety management into all facets of work planning and execution. Directly responsible for safety on all work orders/Maintenance Tickets.

4.8 General Maintenance Ticket Coordinator - enters data provided by the requester to create a Maintenance Ticket for various types of fairly routine work as shown in Attachment 1. Also responsible for the Maintenance Help Line (x-5100), providing assistance on the maintenance work request/work order, as requested.

4.9 Support Organizations - review and provide input to the work order and to the responsible team leader in the Maintenance Department. Provide recommendations for permits/permissives, safety, hazards analysis and control information that is required to perform the current work and suggests feedback from previous work evaluations. A "core team" of support organizations (some personnel are matrixed to the Maintenance Department) consists of personnel from the following Fluor Fernald departments and sections: Safety and Health Department, including the Occupational Safety and Health Section, the Radiological Control Section, the Safety Analysis Section and the SOM Safety Section; and the Quality Assurance Department. Also included are the SOM Division's Emergency Services Department, including the Fire/Safety Services Section; and the Facility/Technical Engineering Section. Others are utilized as needed. Each support organization will identify any potential hazards, safety standards and requirements, and control methodology associated with the work scope.

4.10 Maintenance Administration Section - provides oversight of the AWP System, reviews work orders as required that have been rejected or no action taken. Work orders that have had no action within 120 working days from origination date may be **closed or canceled**, unless supporting documentation to remain in the system has been provided to personnel in AWP Administration; the aforementioned policy may be changed as deemed necessary by these personnel in order to meet field conditions.

4.10.1 Preventive maintenance (PM) work orders will be reviewed by Maintenance Administration Section, and shall be completed by the required completion date shown on the work order.

4.11 Facility/Technical Engineering Section - review work requests/work orders that are coded alteration or fabrication or corrective maintenance because they may require technical analysis and the development of an engineering package to support Maintenance Department personnel doing field implementation.

4.11.1 These work requests or work orders will be routed to the Facility/Technical Engineering Section by the Maintenance Engineering/M&TE Section.

4.11.2 The Facility/Technical Engineering Section will perform an evaluation/review of the work order sufficient to disposition the alteration or fabrication or complete an FS-F-4262,

Request for Engineering Services (RES), in accordance with ED-12-7002.

4.11.3 All RES's will be forwarded to Facility/Technical Engineering Section and an engineering representative of this section will be assigned as the primary contact for performing coordination and follow-up to assure closeout of the RES.

4.11.4 The Facility/Technical Engineering Section will respond to the RES by performing a technical analysis, selecting an optimum approach, performing design, and finalizing development of an engineering package of specifications/drawings necessary to support maintenance personnel in all field implementations. This can be as simple as a letter with an attached sketch or drawing(s) that has been signed and dated. The Facility/Technical Engineering Section performs work in accordance with ED-12-4012 and ED-12-7002.

4.11.5 The engineering package will be forwarded to the planner/estimator for entry into the AWP System.

4.11.6 Team leaders shall mark up (red-line) the engineering package based on the direction and approval of the Facility/Technical Engineering Section or the recommendations of the support organizations (which could include hazard mitigation or control issues which may impact the scope of work, lessons learned, or other feedback). The team leader will reflect any of these or any other routine, non-technical changes in the engineering package, mark it "Complete", and return it to the scheduler. The scheduler will turn the package over to document control, who will then forward it to Maintenance Engineering/M&TE Section for verification or drawing update, who will then forward it to Computer Assisted Design/Drafting (CADD) Services Section as required, and final closeout of the associated RES. The Maintenance Engineering/M&TE Section shall return the package to Maintenance Document Control for closure in the CMMS.

▲ **NOTE: Any field modification must be authorized and documented by the Facility/Technical Engineering Section as required by ED-12-4015, ED-12-5002, and RM-0012.**

4.11.7 Structures, systems, and components that have been assigned (refer to ED-12-4015) Performance Grade PG-3 will fall into the Configuration Management (CM) Functional Area and will be administratively controlled in accordance with CM-0001 (See Section 10.5 for definition).

4.11.8 Structures, systems, and components that have been assigned Performance Grade PG-4 and PG-5 should only be required to undergo post maintenance performance testing on a graded approach.

4.11.8.1 This does not preclude the maintenance person responsible for the work from performing an "operational check" on what he/she has repaired, reconfigured, and/or worked on as a result of the work order. These "operational checks" may be witnessed by the project manager and/or facility owner.

4.11.9 Personnel from the Facility/Technical Engineering Section, the Maintenance

Engineering/M&TE Section, or from any project organization which performs a project engineering function may sign work requests or work orders that are designated as corrective maintenance, alterations, and fabrications if there is no design input or output required (refer to ED-12-5002) to accomplish the work requests or work orders.

4.12 Maintenance Engineering/M&TE Section - reviews and approves work orders for maintenance work, including preventive maintenance, alterations, fabrications, and corrective maintenance. Provides guidance on maintenance engineering issues. Coordinates work requests with Davis-Bacon Act issues. Coordinates closely with the Maintenance Administration Section and the Facility/Technical Engineering Section on any maintenance concerns. Works with support organizations as requested or needed.

5.0 GENERAL

5.1 Priority Considerations

5.1.1 Priority 1

5.1.1.1 Definition - A condition which poses an immediate hazard to personnel, facilities, equipment, and/or the environment. Importance is great enough to justify the immediate diversion of personnel from other assignments and to work overtime, based on real-time circumstances. After the item has been resolved or immediately placed in a safe configuration, a priority 2 may be established.

5.1.1.2 Approval Level - The Assistant Emergency Duty Officer (AEDO), or Level 2 Manager that provided verbal authorization shall follow up with written approval with signature, and will inform the Maintenance Administration Section of the need to create backup paperwork and review the scope of work.

5.1.2 Priority 2

5.1.2.1 Definition - A condition, which if not corrected, will cause greater damage or poses a potential safety concern. Importance is great enough to justify overtime work and to divert personnel from other assignments.

5.1.2.2 Approval Level - area facility owner, AEDO, or Level 2 Manager that provided verbal authorization shall follow up with written approval with signature, and shall inform the Maintenance Administration Section of the need to create backup paperwork if a work order has not already been entered.

▲ **NOTE 1: Priority 2 activities shall not be used to compensate for project schedule slippage.**

▲ **NOTE 2: For Priorities 1 and 2, it is the responsibility of the AEDO and/or maintenance team leader to contact all support organizations listed on the pre-job briefing for their input. If direct contact cannot be made, the time and date of attempted contact must be noted on the pre-job briefing sheet. It is also the responsibility of the AEDO and/or maintenance team leader to conduct a pre-job walk down and briefing with all personnel involved with the maintenance work**

activity. The walk down shall identify any safety conditions, hazardous material, and/or controls involved with the maintenance work activity. All personnel involved in the walk down and briefing shall sign and date the pre-job briefing sheet. After initial mitigation, contact maintenance planner/estimator and scheduling personnel to provide details such as required materials and labor.

5.1.3 Priority 3

5.1.3.1 Definition - A condition, which if not corrected, is likely to lead to a more costly loss of production; a condition which is serious enough that, for the safety of personnel, equipment, processes or the environment, systems, must be taken out of service until a repair is completed. Planned project schedule, or to avoid a significant cost impact to the project or operation.

5.1.3.2 Approval Level - facility owner or the Facilities Management Section team leader as defined by OP-1024.

5.1.4 Priority 4

5.1.4.1 Definition - A condition which may be corrected as manpower and material become available.

5.1.4.2 Approval Level - Facilities Management Section team leader or as defined by OP-1024, "Site Facilities Management".

5.2 Other Considerations

5.2.1 An EMERGENCY condition can frequently be mitigated by isolation of electricity, spills, hazardous material or closing a valve(s). Requests for services to mitigate an emergency may be submitted orally to the utility engineer, AEDO, or the Emergency Services Department's Communication Center (x-4444) in order to expedite resolution.

5.2.2 Anyone may initiate a request for maintenance services. However, every request must be approved by the appropriate individuals.

5.2.3 In the event of an emergency and the absence of an area facility owner or, facility owner, the AEDO shall assume the role and responsibility of the facility owner, or the program may be "over ridden" by the Maintenance Administration Section to facilitate mitigating the emergency.

5.2.4 The Maintenance Help Line (x-5100) may be consulted by anyone who needs assistance with a work request. Work requests can be entered if the requester has no access to the AWP System.

5.2.5 Maintenance engineers or planner/estimators are authorized to contact the originator for additional information and/or reject a work request to the originator when the job description is inadequate. Work requests shall be descriptive enough to allow the planner/estimator or maintenance engineer to determine what the cause of failure was, and to determine what repairs are needed.

5.2.6 Every maintenance work request with an estimated cost of labor and material exceeding $2,000, shall be forwarded by the Maintenance Engineering/M&TE Section to the Work Scope/Work Package (WS/WP) Committee to determine whether a labor standards law applies to the requested work. Work requests that require "rework", or have unidentified work elements shall be re-reviewed.

▲ **NOTE 1: No item of work, which is estimated to cost in excess of $2,000, shall be artificially divided into portions less than $2,000 for the purpose of avoiding application of the Davis-Bacon Act.**

▲ **NOTE 2: Once determined that the work is covered by the Davis-Bacon Act, the work request will be returned by the Maintenance Engineering/M&TE Section to the facility owner and/or the originator for submission as a construction project, if desired (refer to ED-12-4012). Area facility owner /facility owner or the originator is responsible to close out/cancel the work order in the AWP System by contacting CMMS Administration.**

▲ **NOTE 3: Work orders with an estimated cost of labor and material exceeding $2,000 (on a Part 2 work order) will be reviewed by the WS/WP Committee to determine whether a labor standards law applies to the requested work.**

5.2.7 General Maintenance Tickets (see Attachment 1, furniture moving, minor repairs or services, etc., and troubleshooting) may be requested through the Maintenance Help Line x5100. Safety concerns may be initially mitigated and/or investigated on a Maintenance Ticket.

5.2.8 The CMMS maintains and collects labor activities, job elements, and material charges against individual items of equipment. Therefore, work requests must reflect proper equipment numbers.

5.2.8.1 If an item of equipment is not properly numbered, the facility owner shall contact CMMS Administration, which includes the Maintenance Document Control Center to have a valid number assigned. Also, the Maintenance Document Control Center will reject/return any work request that does not reflect a valid equipment number, to the facility owner.

5.2.9 Maintenance Department team leaders utilize the graded approach to complete the scope of work which has been described in the job elements or work sequence.

5.2.9.1 If unplanned job elements are discovered after work has started, or planned man-hours/materials do not adequately cover magnitude of requested tasks, the work order may need to be re-estimated and/or a new work package generated. Stop work and contact your team coach.

5.2.10 Requests for sub-contractor personnel to perform maintenance work activities shall be prepared and processed in accordance with the provisions of AC-0001.

5.2.11 All parties involved in the approval process for a work request/work order (the minimum

core team approvals as determined by the support organizations or the project) shall be responsible to ensure all applicable sections of the work request are completed.

5.2.12 The Maintenance Help Line (x-5100) provides an intermediate means for obtaining information or resolving issues involving Maintenance Tickets and/or work requests/orders - including planning, scheduling and current status. The General Maintenance Ticket Coordinator can enter work requests or Maintenance Tickets if the requester has no access to the AWP System. The Maintenance Help Line is available to all personnel.

▲ **NOTE: The Maintenance Help Line is also available to assist those customers that do not have access to a computer for entering a work request into the AWP System. However, if the customer has a computer but does not have access to Lotus Notes they need to contact the Information Management Department's Computer Help Desk (x6661) and get his/her access established to allow them to enter a work order into the AWP System. Instructions will be provided by AWP Administration upon request.**

5.2.13 Non-planned work orders shall be used for time chargeable to items such as funeral, sick, personal, union business, jury duty, etc.

5.2.14 Delay codes for work orders shall be used for standby time on the job activity to document delays that keep the job activity from being completed in a timely manner.

5.2.15 Maintenance Department team leaders should review the status of equipment under their cognizance (that is, equipment with an equipment number tag) and advise the Maintenance Document Control Center of any changes.

5.2.16 Vehicle Repair Garage Section work is performed through its own work order request system as authorized by D10-00-022, Garage Work Request/Order (GWR/O).

6.0 PREREQUISITES

6.1 Personnel associated with the preparation, planning, and determining who performs and executes maintenance activities at the FEMP, are responsible to follow the instructions set forth in this procedure.

6.2 Should subcontractor services be utilized to perform maintenance activities at the FEMP, subcontractors will be required to submit formal, written confirmation that the required worker is qualified and has competence commensurate with the responsibilities of assigned tasks.

7.0 PROCEDURE

7.1 Requesting Alteration, Fabrication, Or Corrective Maintenance

Originator

▼ **NOTE 1: For safety issues that require immediate action, refer to Section 7.3, "General Maintenance Ticket" to mitigate the immediate hazard.**

▼ **NOTE 2: Routing or forwarding to other approving sections and/or departments in support organizations is automatic via the AWP System.**

7.1.1 In the AWP System complete section for "ORIGINATORS RESPONSIBILITIES", of the work request.

7.1.2 Briefly describe the "work required" in the AWP System using less than 40 characters per line. In the "comments section", add as much detail as possible, and if available include FS-F-4259, Design Change Notice, post maintenance performance testing, hold points, operational work instructions, maintenance work instruction, special equipment plan, drawings, and/or other applicable documents as required for the scope of work. Include any potential hazards, safety standards and requirements, and control methodology associated with the work scope.

Facility Owner/Area Facility Owner

7.1.3 Validate the need for the work and determine if troubleshooting is necessary.

7.1.4 Provide as much additional information as possible in order to assist in the preparation of a work request according to the requirements of Section 7.1.2.

7.1.5 Complete the facility owner section of the work request.

7.1.6 If the services requested can be categorized as corrective maintenance, alteration, or fabrication, mark the appropriate block.

7.1.7 Identify all the known potential hazards, safety standards and requirements, and control methodology associated with the work scope, for example: outages, asbestos (refer to CT-4.2.1), biological, lock and tag, chemical/hazmat, radiological, nuclear safety/criticality, open flame/welding, lead/heavy metals, falls, medical, and training. Ensure all training requirements are identified and communicated on the work request.

7.1.8 Assign a priority to the work request (refer to Section 5.1).

7.1.9 Verify that the equipment number is correct and reflects the lowest component level from the complete listing of equipment maintained in CMMS.

Control Account Manager

7.1.10 Verify that funding for the requested work is available, that the work is within the scope of the project/work activity, assign the appropriate control account/charge number, and approve.

Maintenance Engineering/M&TE Section or Planner/Estimator Team Leader

7.1.11 Review the work request for accuracy.

7.1.12 Assign shop code

7.1.13 Assign work request to a planner/estimator.

7.1.14 Screen the services requested to ensure that they are an alteration, corrective maintenance, or fabrication (refer to Section 10.0)

▲ **NOTE 1: The Maintenance Engineering/M&TE Section, the Facility/Technical Engineering Section, and any other project engineering function within projects, may sign for corrective maintenance, alteration, or fabrication if there is no design input or output required to accomplish the work request/work order. Otherwise, it will require the Facility/Technical Engineering Section to process the proper documentation.**

▲ **NOTE 2: Work requests/work orders that are coded alteration or fabrication may require technical analysis and the development of an engineering package to support maintenance personnel doing field implementation.**

7.1.15 Route electronically the work request/work order to the Maintenance Document Control Center.

Maintenance Document Control Center

7.1.16 Assign a work control number to the work request.

7.1.17 If the work request is for an alteration or fabrication, and the Facility/Technical Engineering Section is required, the AWP system will send electronically the work request directly to personnel in this section.

7.1.18 When the Facility/Technical Engineering Section completes its evaluation and action, the work request will be routed electronically to planner/estimator to continue processing.

▲ **NOTE: Special projects are determined by project managers and are responsible to maintain documentation within project engineering functions as defined by the project scope, and to coordinate with** the Facility/Technical Engineering Section **as required by engineering procedures and documents in the Configuration Management and Engineering Design Functional Areas.**

Maintenance Planner/Estimator

7.1.19 Request Facility/Technical Engineering Section, project engineering functions and/or craftsperson technical support as appropriate.

▲ **NOTE: The detail provided will be consistent with a graded approach which will consider code requirements, the skill of a journeyman craftsperson, the complexity of the work, potential hazards, safety standards/requirements, and control methodology associated with the equipment being serviced.**

7.1.20 Consistent with the graded approach, use (Attachment 2) as a guide to the four types of job order elements for estimating the manpower/material(s) necessary to complete the job task elements. For two part work orders refer to Attachment 2, Part C.

7.1.21 Involve workers, as necessary, in the planning of jobs, hazard identification and controls through formal/non-formal walk downs.

7.1.22 If the estimated cost of labor and material exceeds $2,000, the work request shall be routed to the Maintenance Engineering/M&TE team leader to coordinate Davis-Bacon Act issues with the Work Scope/Work Package (WS/WP) Committee to determine whether a labor standards law applies to the requested work. Continue with this procedure only if the requested services fall within the purview of the Maintenance Department. Work requests that require "rework", or have unidentified work elements, shall be re-reviewed by the representative of the WS/WP Committee only if the cost exceeds $2,000 and the WS/WP Committee has not already reviewed the work and determined it was not covered by the Davis-Bacon Act.

Facility/Technical Engineering Section, Project System Engineering Functions, Maintenance Engineering/M&TE Section

7.1.23 Walk down corrective maintenance work orders with the maintenance planner/estimator as required to ensure that as much detail as possible, and if available include FS-F-4259, Design Change Notice, post maintenance performance testing, hold points, operational work instructions, maintenance work instruction, special equipment plan, drawings, and/or other applicable documents as required for the scope of work. Include any potential hazards, safety standards and requirements, and control methodology associated with the work scope.

Control Account Manager

7.1.24 Approve the expenditures for man-hours/materials associated with the work request, and ensure the appropriate control account/charge number has been assigned.

▲ **NOTE: Final Control Account Manager (CAM) approval on work requests will serve as documentation for credit card purchase approval as described in AC-0006.**

Area Facility Owner

▼ **NOTE: The area facility owner can delegate approval authority to an alternate as required.**

7.1.25 Provide final review and approval of the work request (including applicable hazard controls tailored to the work being performed).

Support Organization Representatives

▼ **NOTE: A "core team" of support organizations (some personnel are matrixed to the Maintenance Department) consists of personnel from the following Fluor Fernald**

departments and sections: Safety and Health Department, including the Occupational Safety and Health Section, the Radiological Control Section, the Safety Analysis Section and the SOM Safety Section; and the Quality Assurance Department. Also included are the SOM Division's Emergency Services Department, including the Fire/Safety Services Section; and the Facility/Technical Engineering Section. Others are utilized as needed. Each support organization will identify any potential hazards, safety standards and requirements, and control methodology associated with the work scope.

7.1.26 Work requests that require Facility/Technical Engineering Section support shall be reviewed by the matrixed representative for sufficient data to disposition the alteration/fabrication or complete a RES in accordance with ED-12-7002.

▲ **NOTE: The Facility/Technical Engineering Section may have a representative who is matrixed to the Maintenance Department.**

7.1.27 Forward all RES's to the Facility/Technical Engineering Section. The matrixed representative (if any) is the primary contact for coordination and follow-up to assure closeout of the RES.

Facility/Technical Engineering Section

7.1.28 The matrixed (or other) representative will respond to the RES by performing a technical analysis, selecting an optimum approach, performing design and final development of an engineering package that consists of specifications/drawings (signed off by this section) necessary to support maintenance personnel in field operations.

▲ **NOTE: The response may be as simple as a letter specification with an attached signed off sketch or drawing.**

7.1.29 Recommend permissives/permits, hold points, and energy isolation plans (EIPs) as appropriate, (e.g. Radiological Control Section personnel provide personal protective equipment requirements, etc.) based on each support organization's procedures (Reference Attachment 3) and required by the performance of work.

7.1.30 Establish a formal/non-formal walk down, if required, to include the need to develop and implement hazard controls prior to the performance of work and provide feedback, on the work request.

7.1.31 Review need for additional support organization technical review, and indicate this information in the comment section of the work request and release the work request to the planner/estimator for preparation of the work order.

Maintenance Planner/Estimator

7.1.32 As shown in Attachment 3, compile the necessary preliminary permissives and permits.

7.1.33 Review engineering packages and/or support organization recommendations and incorporate as required.

7.1.34 If required, develop a post maintenance performance testing (PMPT) plan using the "PMPT Requirements" sheet in the AWP System (Reference D10-02-016) and/or "Maintenance Hold Point's" (Reference D10-02-015).

7.1.35 Perform final review of the work package and enter the appropriate data into the CMMS database upon completion of the planning effort in the AWP System, print the original work order, verify that all materials ordered have been received, and place the work order into a Status 28 (ready for scheduling) in the CMMS system, and forward to the scheduler for scheduling of the work activity.

Maintenance Coordinator

7.1.36 Assist planner/estimator and team leader in compiling permits/permissives.

Maintenance Scheduler

7.1.37 Log receipt of work orders from the planner/estimator into the document control log book.

7.1.38 Obtain signature of facility owner, area facility owner or designee for release/availability of facility to start work and forward the work order to the team leader along with schedule.

7.1.39 Ensure work orders are in appropriate "Work Order Status Codes" for scheduling.

7.1.40 Review the work order and determine the availability of crafts and support organizations that will be involved.

7.1.41 Coordinate the assignment of personnel resources and equipment with the facility availability and schedule the work.

7.1.42 Coordinate with team leaders to schedule work activities, and document deviations to the schedule based on electronic notification from team coaches.

Maintenance Team Leader

7.1.43 Assemble the work crew and coordinate with personnel from support organizations as needed/required based on scheduled work activities. Conduct a pre-job briefing, including a job walk down, potential hazards, safety standards and requirements, and control methodology, recognize and discuss QA and maintenance hold points as required with craftsperson. Document the pre-job briefing, including all feedback.

▲ **NOTE 1: Return work orders that require additional information, (i.e., additional hours, scope of work, and two-part work orders, etc.), to the scheduler for forwarding to the assigned planner/estimator for any modifications.**

▲ **NOTE 2: Return "non-worked" work orders to schedulers at the end of the week so that they may be rescheduled. Also return completed work orders at the end of the**

day so that they can be processed for closeout.

7.1.44 Supervise craftsperson(s) and complete the work as described in the job elements or work sequence from the work order. Document any elements which were added or changed from those in the job elements section for historical reference.

7.1.45 If specified in the job elements section, conduct in company with the facility owner and/or area facility owner or designee, the PMPT as required by D10-02-016, and complete the attached PMPT sheet.

7.1.46 Coordinate with the area facility owner/facility owner for the removal/replacement of the work related equipment, as well as construction debris. Area facility owner/facility owner should prepare proper documentation for identified damaged or contaminated equipment, as required, and send to the property manager for disposition, if necessary.

7.1.47 Verify that work has been completed satisfactorily and that the work site is returned to the pre-activity condition. Identify any lessons learned and/or feedback and document on the work order for future reference.

7.1.48 If QA hold point was required, notify QA representative prior to starting hold point activity.

▲ **NOTE: Upon their acceptance of the completion of hold point requirements, project QA will initial AND date the maintenance work order cover sheet adjacent to the work order number, to document their approval.**

7.1.49 Verify completion of work order and sign permits/permissives as required.

Facility Owner/Area Facility Owner

7.1.50 Check operability of equipment or components, and ensure the work site conditions have been returned to normal.

Complete a FS-F-0563, "Property Disposal Request" for any equipment removed, also notify CMMS Administration of any equipment changes, including location changes (refer to Section 7.2.1). Verify completion of work order and sign permits/permissives as required.

Maintenance Team Leader

7.1.51 Sign for the completion of the work order, and enter scope of work accomplished (i.e., replaced valve, replaced pump seal etc.). Provide any lessons learned (Reference OP-1020).

▲ **NOTE: When working Part 1 and Part 2 work orders, the Part 1 will require sign-off that any comments/lessons learned were entered into the work package. This will require forwarding to the applicable scheduler for return to the planner/estimator for Part 2 incorporation. Part 2 requires that it also be signed off and include any comments/lessons learned.**

7.1.52 Mark up the engineering packages approved by Facility/Technical Engineering Section, to reflect any field modifications.

7.1.53 Ensure necessary permits/permissives have been completed for close out of the work order with applicable signatures.

7.1.54 Forward the completed work order to the scheduler, for removal of these activities from the schedule.

Maintenance Scheduler

7.1.55 Contact area facility owner/facility owner for sign off and for verifying that work has been satisfactorily completed. The completed work order will then be forwarded to the Maintenance Document Control Center.

7.1.56 Part 1 work orders require sign-off by the area facility owner/facility owner, who will then forward the work order to the responsible planner/estimator for incorporation of Part 2 job elements.

7.1.57 Forward completed work orders to the Maintenance Document Control Center for close out.

Maintenance Document Control Center/CMMS

7.1.58 Forward any completed work orders with engineering packages to the Facility/Technical Engineering Section.

Facility/Technical Engineering Section

7.1.59 After their close out in engineering records, return marked up engineering packages to the Maintenance Document Control Center.

Maintenance Document Control Center/CMMS

7.1.60 If discrepancies are noted during closeout review, return the work order to the scheduler for resolution with the team leader.

7.1.61 Verify sign-off by the facility owner and/or area facility owner.

7.1.62 Verify sign-off by the team leader.

7.1.63 If a QA Hold Point was established, forward package to matrixed QA representative to ensure hold point was addressed and a Quality Evaluation Plan (QEP) was generated to document compliance, if required.

▲ **NOTE: The QA Department has representatives who are matrixed to the Maintenance Department and are responsible, after addressing hold points, to return the packages to the Maintenance Document Control Center.**

7.1.64 Enter the required data from lessons learned programs and/or repair activities associated with the work order into CMMS and the AWP System and close outwork order.

7.1.65 File the completed work order, with signed documentation, (Reference MS-0008).

7.2 Providing Preventive Maintenance (PM)

Facility Owner, Area Facility Owner, and/or Project Manager/End User

7.2.1 Notify the Maintenance Engineering/M&TE Section:

7.2.1.1 Of the assigned location of any new or relocated equipment,

7.2.1.2 When established equipment cannot be located,

7.2.1.3 When equipment is damaged or destroyed,

7.2.1.4 When lost equipment is found.

7.2.2 It is the end user's responsibility to:

7.2.2.1 Check the equipment prior to use and during operation for an up-to-date "PM/Tested" sticker (or other stickers, as applicable, such as "Calibration" for calibrated equipment).

7.2.2.2 Notify the facility owner/area facility owner when equipment PM is past due, to have the equipment tagged out of service.

Maintenance Document Control Center

7.2.3 Forward automatically generated PM work orders to the appropriate scheduler.

Maintenance Scheduler

7.2.4 Meet with the facility owner/area facility owner to obtain a work release signature for the facility.

7.2.5 Coordinate with the appropriate maintenance team leader to schedule the work activities for a PM work order.

7.2.6 Incorporate PM work orders into weekly schedules.

7.2.7 Coordinate the availability of personnel resources between craftspersons and support organizations.

7.2.8 Forward scheduled PM work orders to the appropriate maintenance team leader.

Maintenance Team Leader

7.2.9 Review the work activity on the PM work order equipment/component with the facility owner and/or area facility owner or designee.

▲ **NOTE: Any minor changes to a maintenance work instruction associated with the PM work order can be RED-LINED by the maintenance team leader per the requirements in procedure, D10-02-014.**

7.2.10 If the PM work order can be completed on time, go to 7.2.22; otherwise, proceed to the next step for requesting a waiver.

7.2.11 When the PM work order cannot be completed by the recommended completion date:

7.2.11.1 Start a waiver request by obtaining site form FS-F-5274 and completing section A.

▲ **NOTE 1: To be considered for acceptance, waiver requests must be submitted at least five (5) working days BEFORE the recommended completion date of the PM work order.**

▲ **NOTE 2: A waiver is NOT required for those items sent off site for calibration or repair, as the Maintenance Engineering/M&TE Section places them in Status 63, *On Hold For Engineering*. When the repaired or calibrated items are returned, and accepted by the Fluor Fernald, Inc. Quality Assurance Department and by the Maintenance Engineering/M&TE Section, they are re-statused and returned to service by the Maintenance Engineering/M&TE Section.**

7.2.11.2 Forward the FS-F-5274 request AND the associated PM work order to the maintenance scheduler.

Maintenance Scheduler

7.2.12 After receiving an FS-F-5274 and associated PM work order,

7.2.12.1 Assign a waiver number to the FS-F-5274 in section B.

7.2.12.2 Forward the PM work order and FS-F-5274 to the cognizant lead engineer of the Maintenance Engineering/M&TE Section.

Maintenance Engineering/M&TE Section

7.2.13 After receiving an FS-F-5274 waiver request and associated PM work order, evaluate the request on a case-by-case basis using the graded approach, engineering knowledge and experience, available technical, operations, and maintenance manuals, and applicable field assessments.

▲ **NOTE: The requestor for a waiver shall NOT be the evaluator for that same waiver.**

7.2.14 If the waiver is to be granted, go to step 7.2.20 otherwise, proceed to the next step for waiver denial and processing.

7.2.15 To deny a waiver,

7.2.15.1 Complete the FS-F-5274 form justifying the denial.

7.2.15.2 Send the completed FS-F-5274 form and PM work order to the maintenance scheduler.

7.2.15.3 Notify the appropriate facility owner/area facility owner, via electronic mail, of the waiver denial and impending completion due date.

Maintenance Scheduler

7.2.16 After receiving a denied FS-F-5274,

7.2.16.1 Notify the maintenance team leader of the waiver denial.

7.2.16.2 File the ORIGINAL FS-F-5274 in the maintenance PM waiver book.

Maintenance Team Leader

7.2.17 Meet with the maintenance scheduler on the disposition and status of the equipment. Record instructions for disposition and statusing of the equipment on the cover of the PM work order and authorize those instructions by signing and dating the PM work order.

Maintenance Scheduler

7.2.18 After PM work order and equipment disposition has been authorized:

7.2.18.1 Attach a COPY of the FS-F-5274 to its associated PM work order.

7.2.18.2 Send the copy of the FS-F-5274 attached to the PM work order to the Maintenance Document Control Center.

Maintenance Document Control Center

7.2.19 After receiving a completed FS-F-5274 and attached PM work order, file the work order package and go to step 7.2.28.

Maintenance Engineering/M&TE Section

7.2.20 To approve a waiver request:

7.2.20.1 Complete section C of the submitted FS-F-5274.

▲ **NOTE 1: The requestor for a waiver shall NOT be the evaluator for that same waiver.**

▲ **NOTE 2: Waiver recommended completion date should not exceed 50% of the original PM frequency.**

7.2.20.2 Send the FS-F-5274 and associated PM work order to the maintenance scheduler.

Maintenance Scheduler

7.2.21 After receiving an approved FS-F-5274 and associated PM work order:

7.2.21.1 Notify the proper maintenance team leader of the waiver acceptance.

7.2.21.2 Enter the new recommended completion date from the FS-F-5274 into the CMMS database.

7.2.21.3 File the ORIGINAL FS-F-5274 in the maintenance PM waiver book.

7.2.21.4 Attach a COPY of the FS-F-5274 to the associated PM work order.

7.2.21.5 Send the PM work order and attached copy of the associated FS-F-5274 to the maintenance team leader.

Maintenance Team Leader

7.2.22 Perform the PM work order by the recommended completion date.

▲ **NOTE: If it is determined that the PM work order cannot be completed on time, a waiver request may be submitted to the cognizant lead engineer of the Maintenance Engineering/M&TE Section, but to be considered, it must be received at least five (5) working days BEFORE the recommended completion date.**

7.2.23 Notify the facility owner/area facility owner of the completion of the work.

7.2.24 After the PM work order has been completed,

7.2.24.1 Sign and date the PM work order cover sheet, indicating that the work has been satisfactorily completed.

7.2.24.2 Return the signed PM work order to the maintenance scheduler.

Maintenance Scheduler

7.2.25 After receiving a signed PM work order,

7.2.25.1 Coordinate PM work order sign off and approval with the appropriate facility owner/area facility owner.

7.2.25.2 Record the date that the PM work order was actually completed, into section D of the original FS-F-5274 in the maintenance waiver log.

7.2.25.3 Forward the signed PM work order to the Maintenance Document Control Center.

Maintenance Document Control Center

7.2.26 After receiving a signed PM work order package,

7.2.26.1 Enter the PM work order data into the CMMS database.

7.2.26.2 Examine the PM work order for field red-lining. If the PM work order has been red-lined, forward a COPY to Maintenance Engineering/M&TE Section for evaluation.

7.2.26.3 File the completed PM work order along with any support documentation per the requirements of MS-0008.

Maintenance Engineering/M&TE Section

7.2.27 After receiving a red-lined copy of a PM work order from maintenance document control:

7.2.27.1 Evaluate the changes on a case-by-case basis using the graded approach, engineering knowledge and experience, available technical, operations, and maintenance manuals, and applicable field assessments.

7.2.27.2 Indicate the necessary changes to the PM work order and authorize those changes by initialing and dating the changes.

7.2.27.3 Forward the authorized changes to maintenance document control for processing.

Maintenance Document Control

7.2.28 After receiving red-line changes authorized by Maintenance Engineering/M&TE Section:

7.2.28.1 Update the CMMS database with the approved changes.

7.2.28.2 For a change that adds a step or steps of the Maintenance Work Instruction (MWI) associated with the PM work order, update the higher level (parent or root) MWI similarly as well.

7.2.28.3 For a change that modifies rather than deletes a step or steps of the Maintenance Work Instruction (MWI) associated with the PM work order, update the higher level (parent or root) MWI AND the sibling (same series) MWIs as well.

7.2.28.4 File the authorized red-line change document along with any support documents with its associated files.

7.2.29 The PM work order process is completed.

7.3 Obtaining General Maintenance Ticket

General Maintenance Ticket Coordinator

▼ **NOTE 1: For safety issues that have been identified in Section 7.0 of this procedure as being an immediate safety hazard, a Maintenance Ticket will be generated to mitigate the immediate hazard. It is the responsibility of the team leader in charge of the maintenance ticket work activity to determine further corrective actions, and controls. Sections 7.3 Note 2, 7.3.4, 10.14, and Attachment 1, provide further guidance for the qualification of activities to be performed under a Maintenance Ticket.**

As required, the team leader can contact his/her safety representative who perform the functions of occupational safety and health, industrial hygiene, radiological control, safety engineering, and nuclear safety to assist in the corrective actions.

This will allow the work request or work order to be planned to accomplish the necessary actions to repair/replace the hazard of concern.

▼ **NOTE 2: Work in environments involving 277 volts and higher will require a work order for lock out and tag out of systems that are in support of construction and/or projects for overhead lines, substations, perimeter lighting, wells, etc.**

Work in environments involving 240 volts or less can be worked on a Maintenance Ticket following the guide lines of OP-0004, job safety analysis (JSA), and RM-0021.

For those components with voltages of 277 volts and higher and that require routine lock out/tag out to perform inspections and/or troubleshooting (i.e., heating, ventilation, air-conditioning (HVAC), laundry equipment, process equipment for Advanced Waste Water Treatment (AWWT), Boiler Plant, etc.) can be accomplished on a Maintenance Ticket.

Maintenance Tickets can be used if the requirements, shown in Attachment 3, are followed for permits/permissives and can be completed within the required time element specified for Maintenance Tickets as shown in Attachment 1.

It is the responsibility of the team leader to obtain the required permits/permissives associated with the work activity as defined on the Maintenance Ticket. All permits/permissives shall be attached to the Maintenance Ticket.

7.3.1 Generate Maintenance Ticket for maintenance service meeting the criteria (Attachment 1) for general maintenance or troubleshooting.

7.3.2 Enter data, originator's name, and craft.

7.3.3 Forward to appropriate maintenance team leader.

Maintenance Team Leader

7.3.4 Review the requested work to confirm that it qualifies as general maintenance, and ensure that if permits/permissives are required, that they are attached to the Maintenance Ticket prior to starting any work activity. If the work requested does not

meet the criteria for general maintenance, (Attachment 1) notify the facility owner and/or area facility owner to submit a written work request.

▲ **NOTE: Maintenance Tickets CANNOT be used for replacement of major components or alteration of equipment, facilities, processes or systems, and no Maintenance Tickets.**

▲ **NOTE: NO ANSI/ASME or AWS Code welding is allowed on Maintenance Tickets.**

▲ **NOTE: Maintenance Tickets CANNOT be used on roofing work, including roof repair.**

7.3.5 Assign craftsperson and obtain release of the work area from the area facility owner, facility owner and/or their designee.

Maintenance Craftsperson

7.3.6 Perform the work activity per the Maintenance Ticket. Upon completion, enter badge number, sign and date.

7.3.7 Notify team leader of any problems and also that work has been completed, with written "specifics" in the comments section.

Maintenance Team Leader

7.3.8 Ensure work is completed. If it becomes obvious that the work scope has changed, or additional resources are necessary that would require a work request, notify the facility owner and/or area facility owner.

7.3.9 Verify craftsperson time cards and related Maintenance Ticket number(s), if applicable.

7.3.10 Document the repairs and materials used in the comments section.

7.3.11 Forward the completed Maintenance Ticket to the General Maintenance Ticket Coordinator.

General Maintenance Ticket Coordinator

7.3.12 Enter the completed data into the AWP System for close out and filing of the Maintenance Ticket.

7.4 Obtaining Maintenance Help Information

Maintenance Help Line (x5100)

7.4.1 Answer basic questions and assist on Maintenance Tickets and work request/work order status.

7.4.2 Expedite resolution to issues or questions by referral to the appropriate support group.

7.4.3 Use this service as needed to answer basic questions and to expedite issues involving the work request/work order and Maintenance Ticket process.

8.0 RECORDS

8.1 The following records maybe generated as a result of this process:

8.1.1 Deleted and/or canceled work orders

8.1.2 Engineering package (RES and drawings)

8.1.3 Hold point inspection plans

8.1.4 Maintenance Tickets

8.1.5 PM work orders

8.1.6 Post maintenance performance test plans

8.1.7 Work orders

9.0 APPLICABLE DOCUMENTS

9.1 Drivers

9.1.1 DOE Order 4330.4B, Maintenance Management Program

9.1.2 DOE Order O 430.1A, Life Cycle Asset Management

9.1.3 RM-0016, Management Plan

9.1.4 48 CFR 970.2273, Administrative Controls and Criteria for Application of the Davis-Bacon Act in Operational or Maintenance Activities

9.1.5 DOE G. 450.4-1A, Integrated Safety Management System Guide

9.1.6 PL-3081, Safety Management System Description (SMSD)

9.1.7 PL-3080, Maintenance Implementation Plan

9.2 Forms

9.2.1 FS-F-0563, Property Disposal Request

9.2.2 FS-F-4259, Design Change Notice

9.2.3 FS-F-4262, FEMP Request For Engineering Services

9.2.4 FS-F-5274, Engineering Preventive Maintenance (PM) Waiver

9.3 Information Sources

9.3.1 MS-2001, Functional Area Document Program

9.3.2 RM-0052, Functional Area and Division Document Requirements

9.3.3 D10-00-022, Garage Work Request/Order (GWR/O)

10.0 DEFINITIONS

10.1 Alteration Maintenance - A work request for work which changes the configuration of equipment, system, process or facility from an 'as was' configuration to a new condition or function. Requires approval by the Facility/Technical Engineering Section for non-project activities and by a project engineering function for all project related activities.

10.2 Facility/Technical Engineering Section – The department under the Site Operations and Maintenance Division responsible for performing technical analysis on work requests; provides approvals when requested on work requests, work orders, etc., and provides technical engineering input as requested.

10.3 Computerized Maintenance Management System (CMMS) - The computerized maintenance management system employed at FEMP to provide the coordination of equipment, facilities and material requirements for scheduling of preventive maintenance and to have a centralized maintenance program which retains historical information and costs.

▲ **NOTE: The CMMS database is not a property tracking system. The CMMS database is intended to generate PM work orders, work orders, and show the equipment's last known location and to whom it was last assigned.**

10.4 Corrective Maintenance - Repair and restoration of structures, systems or components that have failed or are malfunctioning and are not performing their intended function.

10.5 Configuration Management - The management process that assures consistency among the technical baseline, requirements physical configuration, technical documentation and the maintenance of this consistency through design, construction, operation, and decontamination and decommissioning phases of a project.

10.6 Configuration Control - The configuration process that ensures all changes are properly identified, reviewed, approved, implemented, and tested as regards to structures, systems, and components within a facility.

10.7 Davis-Bacon Act - A Federal Fair Labor Standard Law which requires that work for new construction with a cost in excess of $2,000 and is funded by or supported by

federally appropriated funds shall be completed by a work force who are paid a salary specified by the Department of Labor.

At the FEMP, this determination is made by a Work Scope/Work Package (WS/WP) Committee, comprised primarily of Fluor Fernald division managers.

10.8 Deficiency - Any condition that deviates from the design of a structure, system, component, or equipment and results in a degraded ability to accomplish its intended function.

10.9 Design Change Notice (DCN) - A document used to identify, formalize a request for, or provide changes to an approved design drawing, specification, or other governing document. It has the same authority as a revision to the affected document when approved by the design organization.

10.10 Fabrication Maintenance - Services to prepare or construct a new structure, system or component that is necessary to support some function. Requires Facility/Technical Engineering Section personnel for non-project activities and by personnel from a project engineering function for all project related activities.

10.11 Engineering Package - Consists of the work request or work order, Request for Engineering Services (RES), any technical analysis, sketches or drawings, specifications, notes, field modifications, etc., prepared and approved by the Facility/Technical Engineering Section that is necessary for the completion of maintenance activities.

10.12 Facility - Any equipment, structure, system, process or activity that fulfills a specific purpose as defined in OP-1024, Table 1-Facility Types.

10.13 Formal Walk Down - A documented physical inspection as required by the complexity or nature of the scope of work.

10.14 General Maintenance - Any maintenance task associated with facilities, roads or grounds which can normally be accomplished by one or two craftspersons, utilizing common tools associated with the craft. Work is normally of a short duration, and involves use of sundry materials such as but not limited to, faucet washers, light bulbs, window panes etc. General maintenance work includes, but is not limited to, activities described in Attachment 1.

10.15 Graded Approach - A deliberate effort to ensure that the level of analysis, documentation and actions are commensurate with the relative importance to safety, security, personnel and equipment and that the work is accomplished in a cost effective manner.

10.16 Job Safety Analysis (JSA) - A management tool (and form used) to analyze the hazards of a job and identify the safe work practices which will mitigate those hazards.

10.17 Maintenance Administration Section - Comprise various groups/personnel within the Maintenance Department. Includes AWP Administration, CMMS Administration,

Maintenance Document Control Center, General Maintenance Ticket Coordinator, Maintenance Help Line; includes maintenance schedulers, planner/estimators, time clerk, coordinators. Includes personnel matrixed from the Radiological Control Section, Quality Assurance Department, and the Facility/Technical Engineering Section. Includes responsibility for support obtained from the "core team" of support organizations, (refer to Sections 4.9 and 7.1.25).

10.18 Maintenance Engineering/M&TE Section - Performs the maintenance engineering functions within the Maintenance Department. Approves work requests, work orders, grants time extensions on PM work orders, prepares maintenance work instructions. Performs necessary liaison with other sections or departments on maintenance issues as required. Coordinates work requests with Davis-Bacon Act issues. Responsible for measuring and test equipment (M&TE) and preventive maintenance on "calibrated equipment".

10.19 Maintenance Ticket - Prepared by the General Maintenance Ticket Coordinator in the Maintenance Administration Section for work described as general maintenance associated with facilities, roads, or grounds which can normally be accomplished by one or two craftsperson, utilizing common tools associated with the craft, (refer to Section 10.14). Also, Attachment 1 describes the type of work that can be completed on a Maintenance Ticket.

10.20 Maintenance Work Request/Work Order - The form used to request maintenance services and to plan the activity is called the work request. When the planning has been completed by planner/estimator and approved by the facility owner or area facility owner, it is released to the scheduler, team leader, and craftsperson(s) as a work order.

10.21 Maintenance Work Instruction (MWI) - Step by step instructions (attached to PM work orders) on the proper method of performing preventive maintenance activities as specified by manufacture's specifications and the Maintenance Engineering/M&TE Section in accordance with applicable procedures (refer to D10-02-014).

10.22 Nuclear Facility - For purposes of this procedure, any FEMP facility or group of buildings designated as "nuclear" in IM-2352 or other FEMP safety basis document.

10.23 Post Maintenance Performance Testing (PMPT) - Testing of a system, process or component (refer to D10-02-016 "PMPT Requirements") to verify that the components will fulfill their design function when returned to service after maintenance, and that it is performing as anticipated by design.

10.24 Preventive Maintenance - Periodic and planned inspections and maintenance actions taken to maintain structures, systems, and components within their design operating conditions. ~~Done with~~ PM work orders are tracked and controlled in CMMS.

10.25 Preliminary Concerns - Are concerns such as potential hazards, safety standards/requirements and control methodology, that are identified by the facility owner but are subject to change based upon support organization reviews.

10.26 Troubleshooting - A systematic analysis of the symptoms, of the conditions existing in

equipment, system or process that is followed to determine the cause and extent of the deficiency, define the work scope, and provide ready reference to applicable documentation.

ATTACHMENT 1
WORK PERFORMABLE ON MAINTENANCE TICKET- EXAMPLES ONLY (1 of 2)

▼ **NOTE: Ticket work is normally of a short duration, and involves use of sundry materials such as, but not limited to, faucet washers, light bulbs, window panes, etc. The sundry materials are charged to the requesting organization.**

▼ **NOTE: NO ANSI/ASME or AWS Code welding will be done on any work ticket.**

▼ **NOTE: NO roofing work, including roof repair, will be done on a work ticket.**

1. Change out ballast in lighting systems (Reference RM-0021)
2. Replace light fixtures with like kind (Reference RM-0021)
3. Touch up scarred paint on walls/floors
4. Minor repair to wood wall panels and/or wall board
5. Door repairs (i.e. alignment, door knobs, locks, and etc.
6. Door closures
7. Minor window repairs
8. Trailer skirting repairs
9. Minor plumbing repairs (i.e. flush valves, sink valves, drains, and etc. (refer to RM-0020 and check with radiological control technician before opening system)
10. Repack valves (Reference RM-0021)
11. Tightening valve packing (Reference RM-0021)
12. Change out electrical breakers 110/240 volts (Reference RM-0021)
13. Reset circuit breakers (Reference RM-0021)
14. Repair electrical switches and outlets (Reference RM-0021)
15. Repair electrical cords
16. Trailer step repairs
17. Relocation of modular furniture "without" electrical connections up to 3 cubicles (Reference RM-0021)
18. Minor repairs to potable water piping 1" in size up to 8' in length to include fittings and valves (Reference RM-0021)
19. Repair/replace restroom exhaust fans with like kind (Reference RM-0021)
20. Minor floor tile repair up to 4' square area "non-asbestos type" (Reference RM-0021)

ATTACHMENT 1
WORK PERFORMABLE ON MAINTENANCE TICKET - EXAMPLES ONLY (2 of 2)

21. Install, remove, and relocate white boards, pictures, and/or bulletin boards etc.
22. Repair/replace section of rain gutters
23. Install, remove and/or replace window blinds, curtains etc.
24. Minor leaks at doors and windows
25. Minor repair/replacement of signs
26. Unplug sewer/floor drains using a rotor rooter (refer to RM-0020 and contact radiological control prior to start of work)
27. Minor caulking and splash guard repairs
28. Repairs on desks, chairs, tables, and office type equipment
29. Clean/blow out motors to remove dust etc.
30. Adjust thermostats
31. Change out expansion valves with like kind
32. Change out fuses (Reference RM-0021)
33. Check air filters and replace as required (Reference RM-0021)
34. Repair small electrical appliances
35. Minor repairs on office steam radiant heaters
36. Repair or replace condensate lines up to 1" in size, including valves for systems having screwed fittings, following the requirements of RM-0021, RM-0020 and OP-0004 **(NO WELDING IS ALLOWED).** Attach all documentation to the ticket.
37. Repair or replace steam lines up to 1" in size, including valves for systems having screwed fittings, following the requirements of RM-0021, RM-0020 and OP-0004 **(NO WELDING IS ALLOWED).** Attach all documentation to the ticket.

NOTE: This is a sample list and is not all inclusive, and other items can be looked at on an individual basis by the team leader. It is the responsibility of the team leader to review/discuss current Job Safety Analysis (JSA)/SPR (Reference RM-0021) with the craftsperson as required to complete the ticket work activity. A JSA identifies potential hazards, and recommended safe job practice procedures steps used to perform work on Maintenance Ticket Items. JSAs are not shown as part of this procedure as they are subject to change.

ATTACHMENT 2
JOB ORDER ELEMENT - GRADED APPROACH FOR PLANNER/ESTIMATORS

A. Engineered Estimates: Employ engineered task/time factors to arrive at the manpower requirements necessary to complete a task.

B. Repeat Estimates: Data which can be retrieved from the computer data base system, including actual manpower requirements from previous performance(s) or which can be retrieved from hand written documents on file.

C. Not Estimated: Commonly used for jobs like underground water main breaks where the scope of the job is not known until the excavation is completed, or steam tracer leaks where pipe insulation obscures the exact location and scope of the problem. These tasks can be written in two parts. The first part is troubleshoot/define scope of work, and the second part defines remaining scope of work. Upon completion of Part 1(troubleshoot/define scope of work), provide the detailed job elements necessary to complete the scope of work required. When all elements and materials are identified, notifies AWP Administration personnel of the need to re-route the work order electronically through the approval process. This starts with the final CAM approval, site area facility owner and support organization review groups to assure that the scope, necessary safety requirements, hazardous materials and permits/permissives have been identified for the completion of the requested work. The planner/estimator, upon printing the Part 2 work order (with job elements) will attach the Part 1 work order for historical job reference.

D. Non-Engineered: Vary in accuracy, are sometimes utilized for tasks requiring higher levels of control which for some reason cannot be delayed by taking extra time to complete a type 1 or engineered work order estimate.

ATTACHMENT 3
PERMITTING RESPONSIBILITIES (1of 2)

It is the responsibility of the following departments to provide the required permits/permissives to be attached to the work order and/or Maintenance Ticket.

Planner/Estimator/Maintenance Coordinator

Outage Permits/Service Interruption Permit
Lead Permit
Penetration Permits and drawings, per the requirements of SH-0018
Asbestos advanced notification form with project designer specifications
Energy Isolation Plan (EIP), per the requirements of OP-0004

Maintenance Team Leader (Permits Generated on the Day of Actual Work)

Outage Permits/Service Interruption Permit
Open Flame & Welding Permits
Confined Space Permit
Penetration Permit, per the requirements of SH-0018
Chemical Materials Permit
Asbestos Permit

> **NOTE: Maintenance Coordinator, as available, may assist the maintenance team leader and/or planner/estimator in obtaining signatures.**

Departments listed below are responsible for reviewing and approval and/or providing their permits as required to cover the scope of work.

Fire Protection Review and Approval
Open Flame and Welding Permits
Identify preliminary PPE requirements

Safety Review and Approval
Safety permitting
Generate permits as required
Identify preliminary PPE requirements

Nuclear Safety Review and Approval
Generate Nuclear Systems Operation approvals
Criticality Safety
Nuclear Safety Permits
Issue NSOA, CSA.

ATTACHMENT 3
PERMITTING RESPONSIBILITIES (2 of 2)

Industrial Hygiene Review and Approval
Confined Space Permit
Chemical/Haz Materials Permits
Asbestos Permit
Generate IH permits
Lead testing requirements
Adding IH/safety requirements
Identify preliminary PPE requirements

Radiological Review and Approval
Initiate RWP Permits/PPE documents
Input general RWP & initiate PPE documents
Assign RWP numbers to applicable work requests
Identify PPE requirements

Heavy Equipment Operator
Penetration Permits, per the requirements of SH-0018

Utility Engineer (UE) Review and Approval
Penetration Permits, per the requirements of SH-0018
Outage Permits
Service Interruption Permits
Magnetometer inspection as required for ground penetrations
Provide underground drawings as required.

Acronym List
CSA = Criticality Safety Analysis
IH = Industrial Hygiene
NSOA = Nuclear Systems Operation Approvals
PPE = Personal Protective Equipment
RWP = Radiation Work Permit

ATTACHMENT 4
FEMP WORK REQUEST/ORDER PROCEDURE ISM CROSSWALK

FEMP WORK REQUEST/ORDER PROCEDURE ISM CROSSWALK

Guiding Principles (GP)	
GP1: Line Management Responsibility for Safety	Section 2.2, Section 4.7, Section 4.9, Section 4.11.6
GP2: Clear Roles and Responsibility	Section 4.1 thru 4.12, Section 5.2.3, 5.2.5, 5.2.13 Attachment 2
GP3: Competence Commensurate with Responsibilities	Section 4.1 thru 4.12, Section 6.2
GP4: Balanced Priorities	Section 4.6, Section 5.1 thru 5.4
GP5: Identification of Safety Standards and Requirements	Section 3.1, Section 4.9, Section 7.1.2, 7.1.24, 7.1.38, 7.1.7
GP6: Hazard Controls Tailored to Work Being Performed	Section 4.9, Section 4.11.6, 7.1.2, 7.1.7, 7.1.24, 7.1.38
GP7: Operations Authorization	Section 4.2, 7.1.1 thru 7.1.9

Core Functions (CF)	
CF1: Define Scope of Work	Section 2.1, 2.2 and 2.3, Section 4.1 and 4.2, Section 7.0 thru 7.1.9, 7.2.13, and 7.2.27.1.
CF2: Analyze Hazards	Section 4.9, Section 7.1.2, 7.1.7, 7.1.24, Section 7.3.
CF3: Develop and Implement Hazard Controls	Section 4.9, 7.0 thru 7.1.9, 7.1.24 and 7.1.38.
CF4:Perform Work	Section 4.11.6, 4.11.8, Section 7.0 thru 7.3.12.
CF5: Provide Feedback and Continuous Improvement	Section 4.9, Section 4.11.6, 5.2.13, Section 7.1.19, 7.1.38, 7.1.44, 7.1.42, 7.2.15.3, 7.2.17, 7.2.25.2, and 7.2.28.2.

*** ***END MT-0003*** ***